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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/617,855

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Dong-Ryeol Lee

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01/24/2006

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EXAMINER

GOMA, TAWFIK A

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,855	LEE ET AL.	
	Examiner	Art Unit	
	Tawfik Goma	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5,10, 16, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "a slim structure" is broad and indefinite language, which does not particularly point out the subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-9, 11-14, 17-20, 22-25, 27, 29-31 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al (US Patent 6337841).

Regarding claims 1, 3, 12, 14, and 23, Kim discloses an optical pickup of an optical disc for a recording/reproducing apparatus (fig. 11 and col. 1 lines 44-52), comprising: a light source emitting a light (211, 221, fig. 11); an objective lens (237, fig. 11) focusing the light emitted from the light source and irradiating the light on the optical disc (200, fig. 11); a collimating lens (225, 214, fig. 11) making the light emitted

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from the light source into a parallel light; and an optical element (223, fig. 11) adjusting a convergence and/or a divergence of the light so that the light passing through the collimating lens and proceeding to the objective lens is a parallel light or approximate to the parallel light (col. 9 lines 33-38).

Regarding claims 2 and 13, Kim further discloses where the optical element is a hologram optical element that adjusts convergence/divergence of the incident light (col. 9 lines 33-38). Kim discloses a diffractive hologram optical element. Diffraction changes the convergence/divergence of incident light by definition.

Regarding claims 6, 17 and 27, Kim further discloses wherein the optical element (223, fig. 11) is disposed between the light source (221, fig. 11) and the collimating lens (225, fig. 11).

Regarding claims 7, 8, 18, 19 and 31 Kim further discloses a beam-shaping device disposed between the collimating lens and the objective lens to shape the beam (233, 235, fig. 11 and col. 9 lines 42-53).

Regarding claims 9, 11, 20, and 22, Kim further discloses wherein the light source comprises a plurality of light sources to emit light having different wavelengths and the optical element adjusts the convergence/divergence of the light emitted from at least one of the plurality of light sources so that the optical pickup is compatible for a plurality of optical recording media having different formats (col. 3 lines 44-62, col. 8 lines 65-67 thru col. 9 lines 1-17 and fig. 11).

Regarding claim 24, Kim further discloses wherein the light source comprises an edge emitting laser or a vertical cavity surface-emitting laser to emit the light having a predetermined wavelength (211, 221, fig. 11).

Regarding claims 25 and 29, Kim further discloses an optical path changing device wherein the collimating lens is disposed between the light source and the optical path changing device (113, 131, fig. 3, M, fig. 11).

Regarding claim 30, Kim further discloses wherein the optical path-changing device comprises a plate beam splitter (113, fig. 3).

Regarding claim 37, Kim further discloses wherein the grating and the optical element are formed in one unified body (223, fig. 11)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 15 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US Patent 6337841) in view of Kojima et al (US Patent 6084847).

Regarding claims 4, 15 and 26, Kim discloses everything claimed as applied above (see 102 rejection). Kim fails to disclose wherein the collimating lens comprises a short focal length of 14mm or less. In the same field of endeavor, Kojima discloses a collimating lens with a focal length within the range of 11mm to 18mm (col. 10 lines 35-37). It would have been obvious to one of ordinary skill in the art to modify the

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collimator lens taught by Kim to have a focal length of 14mm or less as taught by Kojima. The rationale is as follows: One of ordinary skill in the art would have been motivated to provide a collimator lens of 14mm as a design choice parameter and to make optical pickup more compact.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US Patent 6337841) in view of Nishino et al (US Patent 6111842).

Regarding claim 28, Kim discloses everything claimed as applied above (see 102 rejection). Kim further discloses wherein the objective lens has a numerical aperture of 0.6 (col. 5 lines 58-60). Although Kim further discloses wherein the laser source emits a wavelength of 650 nm (col. 4 lines 66-67) for a DVD type disc, Kim fails to disclose wherein the light source emits a wavelength of 655nm. In the same field of endeavor, Nishino discloses a light-emitting laser for a DVD type disc that emits a wavelength of 655 nm (col. 4 lines 4-15). It would have been obvious to one of ordinary skill in the art to modify the laser source taught by Kim to output a wavelength of 655 nm as taught by Nishino. The rationale is as follows: One of ordinary skill in the art would have been motivated to output a 655 nm light as a design choice alternative to 650 nm for reproducing a DVD type disc.

Claims 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (US Patent 6337841).

Regarding claims 32 and 34, Kim discloses everything claimed as applied above (see 102 rejections). Kim further discloses a collimating lens (125, 133, fig. 3), beam shaping device (135, fig. 3), beam splitter (113, 131, fig. 3), and a light source (121, fig.

3). Claim 32 is rejected as an obvious rearrangement of parts that does not change the function of the overall system and the scope of the invention. Kim further shows other arrangement of the elements in figures 1 and 11.

Regarding claim 33, Kim further discloses a grating splitting the light emitted from the light source into at least three light beams to detect a tracking an error signal using a three-beam method (col. 8 lines 10-14).

Regarding claim 35, Kim further discloses a photo detector (141, fig. 3) and a lens for removing aberration (col. 8 lines 46-49) disposed in front of the photo detector (139, fig. 3 and 217, fig. 11). It would have been obvious to remove coma aberration and to incline the photo detector in a direction opposite the plate beam splitter in order to produce a proper focus and tracking error signal.

Regarding claim 36, Kim discloses wherein the optical element and the grating are formed in one united body (123, fig. 3). It is obvious to form the optical element and the grating separately as a design choice rearrangement of parts that does not change the scope of the invention.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abe et al (US Patent 6084843) discloses an optical pickup apparatus with a hologram optical element. Takahashi et al (US Patent 6272098) discloses an optical pickup with two light sources and a hologram optical element.

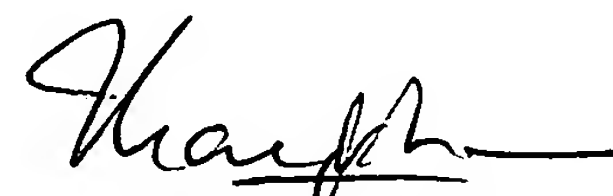
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tawfik Goma
1/19/2006


Thang V. Tran
Primary Examiner
1/19/2006